

Thermal overload relay TF42

Thermal overload relays are economic electromechanical protection devices for the main circuit. They are used mainly to protect motors against overload and phase failures. Starter combinations are setup together with contactors.



Description









- Overload protection – trip class 10
- Phase loss sensitivity
- Temperature compensation from -25 ... +60 °C
- Adjustable current setting for overload protection
- Automatic or manual reset selectable
- Suitable for three- and single-phase application
- Trip-free mechanism
- Status indication
- STOP and TEST function
- Direct mounting onto block contactors
- Sealable operating elements

Order data


TF42 screw terminal
For AF contactors



Approvals

-  cULus UL 508
-  CB scheme
-  CCC
-  GOST-R
-  ABS
-  RINA
-  DNV
-  Lloyd's Register

Marks

 CE

Setting range	Type	Order code	Packing unit	Weight per PCE
A			PCE	kg
0.10 ... 0.13	TF42-0.13	1SAZ721201R1005	1	0.130
0.13 ... 0.17	TF42-0.17	1SAZ721201R1008	1	0.130
0.17 ... 0.23	TF42-0.23	1SAZ721201R1009	1	0.130
0.23 ... 0.31	TF42-0.31	1SAZ721201R1013	1	0.130
0.31 ... 0.41	TF42-0.41	1SAZ721201R1014	1	0.130
0.41 ... 0.55	TF42-0.55	1SAZ721201R1017	1	0.130
0.55 ... 0.74	TF42-0.74	1SAZ721201R1021	1	0.130
0.74 ... 1.00	TF42-1.0	1SAZ721201R1023	1	0.130
1.00 ... 1.30	TF42-1.3	1SAZ721201R1025	1	0.130
1.30 ... 1.70	TF42-1.7	1SAZ721201R1028	1	0.130
1.70 ... 2.30	TF42-2.3	1SAZ721201R1031	1	0.130
2.30 ... 3.10	TF42-3.1	1SAZ721201R1033	1	0.130
3.10 ... 4.20	TF42-4.2	1SAZ721201R1035	1	0.130
4.20 ... 5.70	TF42-5.7	1SAZ721201R1038	1	0.130
5.70 ... 7.60	TF42-7.6	1SAZ721201R1040	1	0.130
7.60 ... 10.0	TF42-10	1SAZ721201R1043	1	0.130
10.0 ... 13.0	TF42-13	1SAZ721201R1045	1	0.130
13.0 ... 16.0	TF42-16	1SAZ721201R1047	1	0.130
16.0 ... 20.0	TF42-20	1SAZ721201R1049	1	0.145
20.0 ... 24.0	TF42-24	1SAZ721201R1051	1	0.145
24.0 ... 29.0	TF42-29	1SAZ721201R1052	1	0.145
29.0 ... 35.0	TF42-35	1SAZ721201R1053	1	0.145
35.0 ... 38.0/40.0	TF42-38	1SAZ721201R1055	1	0.145

Suitable for mounting on:

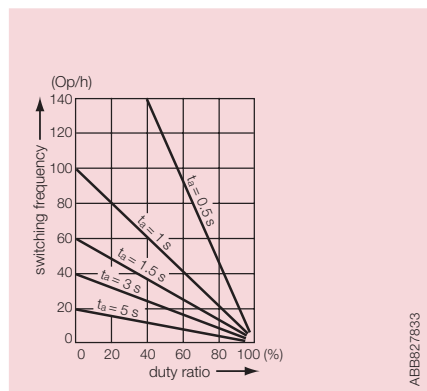
- AF09 ... AF16
- AF26 ... AF38

Resistance and power loss per pole and short-circuit protection device

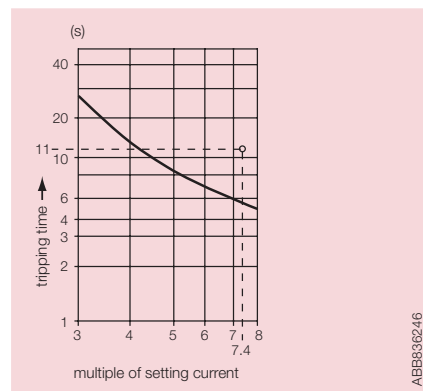
Type	Setting range		Resistance per pole mΩ	Power loss		Short-circuit protection device coordination type 2
	lower value A	upper value A		at lower value W	at upper value W	
TF42-0.13	0.10	0.13	106508.88	1.1	2.0	0.5 A, Type T
TF42-0.17	0.13	0.17	62283.74	1.1	2.0	1.0 A, Type T
TF42-0.23	0.17	0.23	37429.00	1.1	2.0	1.0 A, Type T
TF42-0.31	0.23	0.31	20603.43	1.1	2.0	1.0 A, Type T
TF42-0.41	0.31	0.41	11421.77	1.1	2.0	2.0 A, Type gG
TF42-0.55	0.41	0.55	6347.11	1.1	2.0	2.0 A, Type gG
TF42-0.74	0.55	0.74	3615.62	1.1	2.0	4.0 A, Type gG
TF42-1.0	0.74	1.00	1920.00	1.1	2.0	6.0 A, Type gG
TF42-1.3	1.00	1.30	1065.09	1.1	2.0	6.0 A, Type gG
TF42-1.7	1.30	1.70	622.84	1.1	2.0	10.0 A, Type gG
TF42-2.3	1.70	2.30	340.26	1.1	2.0	10.0 A, Type gG
TF42-3.1	2.30	3.10	187.30	1.1	2.0	10.0 A, Type gG
TF42-4.2	3.10	4.20	102.04	1.1	2.0	20.0 A, Type gG
TF42-5.7	4.20	5.70	59.10	1.1	2.0	20.0 A, Type gG
TF42-7.6	5.70	7.60	31.16	1.1	2.0	35.0 A, Type gG
TF42-10	7.60	10.00	19.30	1.1	2.0	35.0 A, Type gG
TF42-13	10.00	13.00	13.07	1.3	2.2	40.0 A, Type gG
TF42-16	13.00	16.00	7.79	1.3	2.2	40.0 A, Type gG
TF42-20	16.00	20.00	6.25	1.8	2.6	63.0 A, Type gG
TF42-24	20.00	24.00	4.51	1.8	2.6	63.0 A, Type gG
TF42-29	24.00	29.00	3.09	1.8	2.6	63.0 A, Type gG
TF42-35	29.00	35.00	2.25	2.1	2.8	80.0 A, Type gG
TF42-38	35.00	40.00	1.72	2.1	2.8	80.0 A, Type gG

Technical diagrams

Intermittent periodic duty



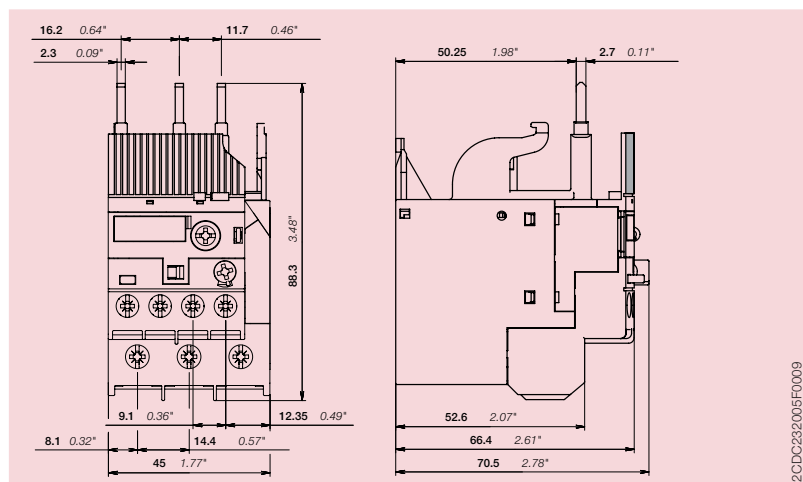
Motor starting time



Tripping curve, starting from cold state

Dimensions

in mm and inches



Technical data UL/CSA

Full load amps and short-circuit protection device

Type	Full load amps (FLA)	Short-circuit protection device		480 / 600 V a.c.	
		SCCR	Fuse type	SCCR	Fuse type
TF42-0.13	0.13 A	18 kA	1 A, K5	100 kA	30 A, Class J
TF42-0.17	0.17 A	18 kA	1 A, K5	100 kA	30 A, Class J
TF42-0.23	0.23 A	18 kA	1 A, K5	100 kA	30 A, Class J
TF42-0.31	0.31 A	18 kA	3 A, K5	100 kA	30 A, Class J
TF42-0.41	0.41 A	18 kA	3 A, K5	100 kA	30 A, Class J
TF42-0.55	0.55 A	18 kA	3 A, K5	100 kA	30 A, Class J
TF42-0.74	0.74 A	18 kA	3 A, K5	100 kA	30 A, Class J
TF42-1.0	1.00 A	18 kA	6 A, K5	100 kA	30 A, Class J
TF42-1.3	1.30 A	18 kA	6 A, K5	100 kA	30 A, Class J
TF42-1.7	1.70 A	18 kA	6 A, K5	100 kA	30 A, Class J
TF42-2.3	2.30 A	18 kA	10 A, K5	100 kA	30 A, Class J
TF42-3.1	3.10 A	18 kA	10 A, K5	100 kA	30 A, Class J
TF42-4.2	4.20 A	18 kA	15 A, K5	100 kA	30 A, Class J
TF42-5.7	5.70 A	18 kA	20 A, K5	100 kA	30 A, Class J
TF42-7.6	7.60 A	18 kA	25 A, K5	100 kA	30 A, Class J
TF42-10	10.0 A	18 kA	35 A, K5	100 kA	45 A, Class J
TF42-13	13.0 A	18 kA	40 A, K5	100 kA	45 A, Class J
TF42-16	16.0 A	18 kA	60 A, K5	100 kA	45 A, Class J
TF42-20	20.0 A	18 kA	80 A, K5	100 kA	60 A, Class J
TF42-24	24.0 A	18 kA	80 A, K5	100 kA	60 A, Class J
TF42-29	29.0 A	18 kA	100 A, K5	100 kA	100 A, Class J
TF42-35	35.0 A	18 kA	150 A, K5	100 kA	175 A, Class J
TF42-38	38.0 A	18 kA	150 A, K5	100 kA	175 A, Class J

Main circuit

Maximum operational voltage	600 V a.c.
Trip rating	125 % of FLA
Full load amps (FLA)	see table above
Short-circuit rating RMS symmetrical	see table above
Short-circuit protection device	see table above

Electrical connection		TF42 ≤ 20 A	TF42 > 20 A
Connecting capacity	stranded	1/2 x AWG 18 ... 10	1/2 x AWG 14 ... 6
	flexible without ferrule	1/2 x AWG 18 ... 10	1/2 x AWG 14 ... 6
Stripping length		12 mm	
Tightening torque		13 ... 22 lb-in	22 lb-in

Auxiliary circuit

Conventional thermal current	NC, 95-96	5 A
	NO, 97-98	2.5 A
Making and breaking capacity	NC, 95-96	B600, Q300
	NO, 97-98	D300, Q300

Electrical connection		
Connecting capacity	stranded	1/2 x AWG 18 ... 12
	flexible without ferrule	1/2 x AWG 18 ... 12
Stripping length		9 mm
Tightening torque		9 ... 13 lb-in